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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,943	03/13/2001	Henry Haverinen	P 276745	9063
909	7590	09/21/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			PHAM, BRENDA H	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2664	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/803,943

Applicant(s)

HAVERINEN, HENRY

Examiner

Brenda Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,9 and 12 is/are rejected.
- 7) ☐ Claim(s) 2-3,6-8, 10-11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date March 13, 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1,5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,195,705 B1).

Claims 1 and 9, LEUNG discloses a method and system for balancing load in a telecommunications system supporting Mobile IP, the system including at least one primary home agent configured to support mobility of at least one mobile node, the method comprising:

Adding one or more secondary home agents to the telecommunications system, in addition to the at least one primary home agent **{Figure 2A shows if router/Home Agent HA2 is the standby Home Agent, a failure by HA1 will cause HA2 to become the active router automatically. After such failure, the Mobile Nodes will continue sending registrations to the IP addresses of HAV 25 even though those packets are now handled by a different physical router/Home Agent.};** and

Transmitting packets destined for the at least one mobile node when needed via one or more secondary home agents. **{Figure 6 shows the flow diagram of the standby home agent assumes role of active Home Agent}.**

Claim 5, LEUNG further teach the method of claim 1, using the primary home agent's Internet Protocol address as a source address of packets transmitted from the one or more secondary home agents and the mobile node's care of address as a destination address. **{Figure 5 shows a mobility bindings table of the type that may be used in the active and standby Home Agents. A second field 532 provides the Home Agent address for each of the registration. A third field 533 is the care of address (or C.O. address), which specifies the address of the Foreign Agent to which the Mobile Node is currently attached.}**

Note that both of the standby and active home agents used the same home agent address as a source address.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEUNG (US 6,195,705) in view of KHALIL et al (US 6,430,698).

Claims 4 and 12, as explained in the rejection statement of claim 1, LEUNG discloses all claim limitations recited in claim 1 (parent claim).

LEUNG does not teach collecting loading information by monitoring a number of packets transmitted by the primary home agent; and

Transmitting packets destined for the at least one mobile node via the one or more secondary home agents to balance the load in response to a number of transmitted packets being transmitted by the primary home agent exceeding a predetermined threshold value.

KHALIL et al in the same field of endeavor, teach this limitation.

{KHALIL teach that the home agent 16 moves some of its load of mobile nodes 11 into other home agents 16 when its load exceeds a certain threshold load (column 13, lines 14-16).}

Therefore it would have been obvious to those having ordinary skill in the art at the time of the invention was made to distribute the extra load to the backup home agent for distribute load more fairly among home agents to prevent lost of traffic data from the overloaded of buffer.

Allowable Subject Matter

6. Claims 3, 6, 7, 8, 9, 11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art made of record fails to teach or fairly suggests in combination the step comprising processing, in the primary home agent, registration requests, sent from the at least one mobile node or a foreign agent serving the mobile node in a visited network; sending routing request to the one or more secondary home agents to transmit packets destined for the at least one mobile node in response to receiving a registration request that is acceptable from the mobile node or from the foreign agent serving the mobile node in the visited network; and intercepting and tunneling the packet destined for the at least one mobile node by the one or more second home agents in response to the routing request as recited in claims 2 and 10.

The prior art further fails to teach or fairly suggests in combination the step of updating Address Resolution Protocol and tunneling configurations of the one or more secondary home agents supporting IPv4 protocol, or neighbor discovery configurations and tunneling configurations of the one or more secondary home agents supporting IPv6 protocol, and intercepting and tunneling the packets destined for the at least one mobile node using the updated Address Resolution Protocol and tunneling

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configurations or the neighbor discovery and tunneling configurations as recited in claims 3 and 11.

The prior art further fails to teach or fairly suggests in combination the method of claim 1, comprising the step of transmitting packets destined for the at least one mobile node via the primary home agent in response to receiving an acceptable registration request from the at least one mobile node or a foreign agent serving the mobile node in the visited network; sending a routing request to the one or more secondary home agents to transmit the packets destined for the at least one mobile node; intercepting and tunneling the packets destined for the at least one mobile node using the one or more second home agents in response to the routing request; and stopping packet transmission to the at least one mobile node via the primary home agent as recited in claim 6.

The prior further fails to teach in combination the method of claim 1, comprising the steps of sending a stop forwarding request to the one or more secondary home agents if the mobility binding to the at least one mobile node is released or a registration lifetime of the mobile node expires; and stopping the packet transmission to the at least one mobile station via the one or more secondary home agent in response to the stop forwarding request as recited in claims 7 and 13.

The prior art does not teach or fairly suggests in combination the method of claim 1, comprising the steps of sending information indicating a duration of packet transmission to the one or more secondary home agents, and stopping the packet

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transmission to the at least one mobile node via the second home agents if a duration indicated in the sent information expires as recited in claim 8.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 6,115,463) Coulombe et al discloses a common channel signaling system interconnects two home location registers. A data administrator responds to a network operator request by sending commands to a first home location register to have subscriber data extracted and formatted for communication over the common channel signaling system. Prior to communication, the first home location register verifies a common channel signaling system functionality level of a second (destination) home location register. If verified, the communication is sent, unformatted, and the included subscriber data stored.

(US 6,738,362) XU et al discloses a mobile Internet Protocol service provider system implements home agent functionality in two separate devices. One device, the home registration agent, is devoted to registration of the mobile node. The other device, the home tunneling agent, is devoted to tunneling and routing functions for the foreign agent.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (571) 272-3134.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

September 16, 2004

Brenda Pham

A handwritten signature in black ink that reads "Brenda A. Pham". The signature is written in a cursive style with a large, stylized initial "B" and "P".